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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/741,673	12/19/2003	Tsau-Hua Hsieh		4150

25859 7590 01/24/2007  
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EXAMINER	
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ART UNIT	PAPER NUMBER
2629	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/741,673	HSIEH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Seokyun Moon	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 5-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicants' arguments with respect to claims 5-13 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 5-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroki et al. (US 6,492,973, herein after "Kuroki") and Wilson (US 6,005,533), and further in view of Katabami (US 6,400,359).

As to **claim 5**, Kuroki [fig. 1A] teaches a display system ("*flat display drive device 1000*") comprising:

a signal processing unit ("*display signal source 1*") generating signals to be displayed [col. 5 lines 53-56];

an interface unit, comprising:

a control unit ("*ASK/PSK/FSK modulator 2*") receiving the signals to be displayed from the signal processing unit and converting the signals to be displayed into driving signals [col. 6 lines 11-16]; and

a first transceiver unit ("*transmitter 6*") converting the driving signals into forward (the radio frequency wave transmitted from "*transmitting antenna 13*" to "*receiving antenna 16*") radio frequency waves [col. 6 lines 27-45];

a first antenna ("*transmitting antenna 13*") sending the forward radio frequency waves from the first transceiver unit;

a second antenna ("*receiving antenna 16*") receiving the forward radio frequency waves sent from the first antenna; and

a display device (a combination of "*receiver 15*", "*demodulator 20*", "*signal separation circuit 20'*", "*X-direction driver 22*", "*Y-direction driver 23*", and "*flat display 21*"), comprising:

a second transceiver unit (a combination of "*receiver 15*", "*demodulator 20*", and "*signal separation circuit 20'*" ) receiving the forward radio frequency waves from the second antenna, converting the forward radio frequency waves into the driving signals [col. 7 lines 3-16] and separating the driving signals into x-direction image signals and y-direction image signals [col. 7 lines 16-18];

a display panel ("*flat display 21*") comprising an array of display pixels, x-direction signal lines respectively arranged for each of rows of the display pixels, and y-direction signal lines respectively arranged for each of columns of the display pixels [col. 7 lines 19-35];

a x-direction driver ("*X-direction driver 22*") supplying the x-direction signal lines with the x-direction image signals from the second transceiver unit [col. 7 lines 27-31]; and

a y-direction driver ("*Y-direction driver 23*") supplying the y-direction signal lines with the y-direction image signals from the second transceiver unit [col. 7 lines 27-31].

Kuroki does not teach the signal processing unit receiving input signals, the first transceiver unit to providing the input signals for the signal processing unit from backward radio frequency waves, the first antenna receiving the backward radio frequency waves, the second

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antenna sending the backward radio frequency waves to the first antenna, and the display device being a touch-screen display device.

However, Wilson [fig. 1] teaches a display system comprising a signal processing unit (the CPU of *"host computer 101"*) to receive input signals, a first transceiver unit (non-antenna portion of the *"XMIT/RCVR 116"* included in *"host computer 101"*, which is equivalent to *"RF RECEIVER/TRANSMITTER 116"* of *"XMIT/RCVR 116"* included in *"wireless interface device 100"*, as shown in fig. 4) to provide the input signals for the signal processing unit from backward (the radio frequency waves transmitted from *"wireless interface device 100"* to *"host computer 101"*) radio frequency waves, the first antenna (the antenna portion of *"XMIT/RCVR 116"* included in *"host computer 101"*, which is equivalent to *"antenna 116A"* of *"XMIT/RCVR 116"* included in *"wireless interface device 100"*, as shown in fig. 4) to receive the backward radio frequency waves, the second antenna (*"antenna 116A"*) [fig. 4] to send the backward radio frequency waves to the first antenna, and a touch-screen display device comprising a second transceiver unit (a combination of *"RF controller 114B"* and *"RF RECEIVER/TRANSMITTER 116"*) converting input signals into backward radio frequency waves.

It would have been obvious to one of ordinary skill in the art at the time of the invention to adopt Wilson's idea of having a two-directional communication system instead of a one-directional communication system in Kuroko's display system, by modifying Kuroki's signal processing unit to receive input signals, the transceiver unit to provide input signals, the first antenna to receive backward frequency waves, the second antenna to send the backward frequency waves, and the display device to be a touch-screen display device, as taught by Wilson, in order to provide a bi-directional communication system for image display devices.

Kuroko modified by Wilson does not expressly disclose the structure of the touch-screen display panel comprising a plurality of input signal detectors and x, y-direction drivers receiving

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the x, y-direction input signals from the detectors and conveying the input signals to the second transceiver unit.

However, Katabami [fig. 11] teaches a touch-screen display panel comprising a plurality of input signal detectors ("*sensors*"), and means ("*mux 113*" and "*mux 114*") for receiving the x, y-direction input signals from the detectors and conveying the input signals to a processing unit ("*signal processing circuit 110*").

It would have been obvious to one of ordinary skill in the art at the time of the invention to adopt Katabami's idea of including a plurality of input signal detectors and receiving the x, y-direction input signals separately, for the modified Kuroko's display system, in order to ensure the detection of the touching on the touch-screen display panel, thus to provide enhanced detection capability [col. 1 lines 56-59].

As to **claim 6**, the modified Kuroko discussed with respect to the rejection of claim 5 teaches the signal generation device being any one of a personal computer, a server computer, a personal digital assistant, a television set, a television phone and a television conference system [Kuroko: col. 5 lines 53-56].

As to **claim 7**, the modified Kuroko teaches the touch-screen display panel being a liquid crystal display panel [Kuroko: col. 7 lines 19-26].

As to **claim 8**, the modified Kuroko teaches the radio frequency waves being millimeter waves [Kuroko: col. 3 lines 26-35].

As to **claim 9**, the modified Kuroko [Katabami: figs. 9 and 10] teaches the input signal detector being one of a resistive type, a capacitive type, an optical type and an ultrasonic type, and is activated by pressing of a finger or a stylus pen for generating the input signals [fig. 1].

As to **claim 10**, all of the claim limitations have already been discussed with respect to the rejection of claim 5.

As to **claim 11**, all of the claim limitations have already been discussed with respect to the rejection of claim 7.

As to **claim 12**, all of the claim limitations have already been discussed with respect to the rejection of claim 8.

As to **claim 13**, all of the claim limitations have already been discussed with respect to the rejection of claim 9.

### ***Conclusion***

4. The Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is 571-272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on 571-272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

January 13, 2007  
S.M.

AMR A. AWAD  
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read "Amr A. Awad", with a long, sweeping horizontal stroke extending to the right.